

**SYSTEMS AND METHODS FOR REDUCING MEMORY USAGE IN AN EMBEDDED  
SYSTEM BY LOADING INDIVIDUAL SOFTWARE COMPONENTS**

**ABSTRACT OF THE DISCLOSURE**

5 An embedded system configured to reduce volatile memory usage by loading individual software components is disclosed. The embedded system includes a processor, volatile memory in electronic communication with the processor and non-volatile memory in electronic communication with the processor. The non-volatile memory includes an operating system, a loader application, a loading table and multiple individual software components. The non-10 volatile memory also includes loading instructions that load and start the operating system. The loading instructions also load and start the loader application. The loading table is then examined to determine which of the individual software components are to be loaded into the volatile memory. Next, each of the individual software components that are to be loaded as15 indicated in the loading table are loaded into the volatile memory.